

New York State Winter Weather Awareness Week October 23rd to October 29th, 2011

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Why do we need to be prepared for the upcoming winter?

- New York State is known for its cold, snowy and icy winters, especially in upstate NY. However, every part of the state is vulnerable to big snow and ice storms and bitter cold.
- Winter weather can be dangerous if you are not prepared.

Annual Fatalities

- Annually 62 people are directly killed nationwide from winter storms and cold.
- Thousands more are killed in winter-related motor vehicle accidents. Many more are injured.
- Approximately 70 percent of fatalities due to winter storms come from automobile accidents.
- Approximately 25 percent of fatalities occur when people get caught out in a storm.

Winter Hazards

- Heavy Snow
- Ice
- Cold Outbreaks
- Flooding



Snowstorm Definitions

- **Heavy Snow:** 7 inches or more/12 hours.
- **Blizzard:** the most severe winter storm. Wind or wind gusts exceeding 35 mph for 3 hours or more combined with blowing and/or falling snow. Visibilities near zero. Widespread whiteout conditions.
- **Blizzards are a serious life-threatening weather hazard!!!!**
- **Snow Squall:** intense periods of snow with near blizzard or blizzard conditions at times.
- **Snow Shower:** intermittent accumulating snow
- **Snow Flurries:** very light snow with little or no accumulation.

Heavy Snow Impacts

- Disrupts Transportation



Heavy Snow Impacts

- **Traffic Accidents**
 - *Driving too fast for conditions.*
 - *Suddenly driving into white-out conditions*
 - Poor visibility.
 - Hitting a snow drift at high speeds.
 - Hitting snowy or icy patches at high speeds.



Snow Squalls

- Often occur along an arctic frontal boundary
- Generally minor snow accumulations
- Rapid changes in visibility
 - *Dec 2001 – Fatal 30-car pileup near Hazleton*
 - *Feb 2008 – Fatal 68-car pileup on I-81*



Snow squall on the afternoon of Nov 21, 2008 view to the east from NWS CTP. Photo by Rob Radzanowski, Forecaster

Heavy Snow Impacts

- Closes Schools and Businesses



Heavy Snow Impacts

- **Cost of Plowing and Snow Removal**



Heavy Snow Impacts

- Weight of heavy snow can cause roof collapse
- Break tree limbs and utility lines

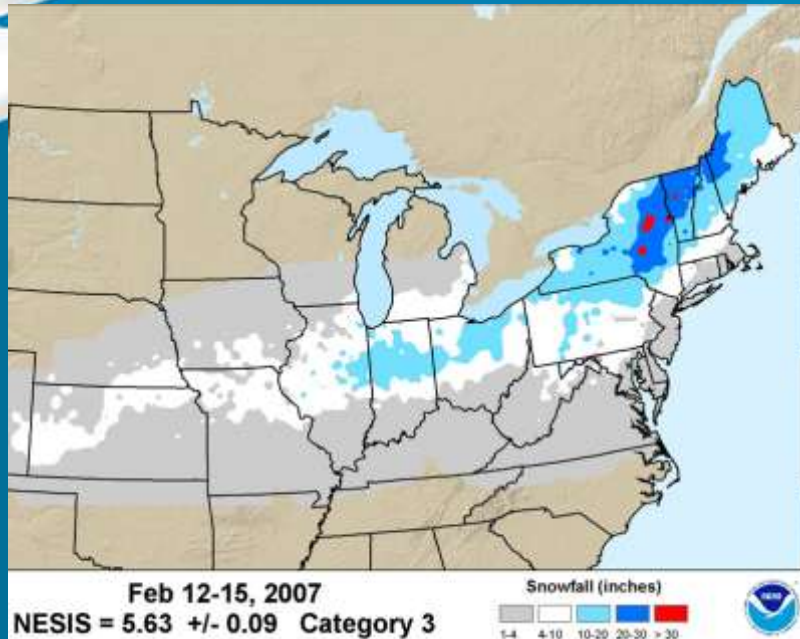


Blizzards

- The March 12-14 1993 Blizzard affected over 100 million people.
- Up to three feet of snow from Alabama to New York impacted 26 states.
- Crippled economic activities of one-third of the U.S., economic losses exceeding \$2 billion, property losses at \$4 billion.
- All East Coast airports closed, 25% of nation's flights cancelled.
- Millions without power.
- 250 fatalities.

NOAA Satellite Image

Valentine's Day Snowstorm – 2007

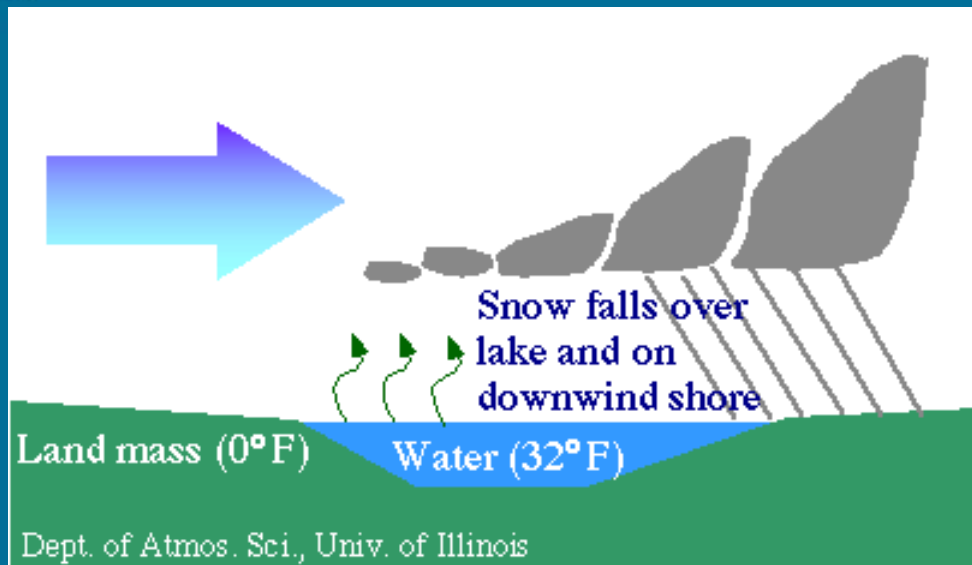


- Most intense portion of the storm occurred during the early morning on the 14th, with heavy snow and near blizzard conditions.
- Roof collapses occurred

- Over 30 in. of snow across the Catskills
- Highest = 39 inches in Roseboom (Otsego County)
- Most locations around the central NY averaged between 15-30 inches
- Snow began Tuesday evening (2/13) and continued through the early morning hours on the 15th



Lake Effect Snow: Common in Upstate New York



- Warm water heats air above
- Warm air is unstable and rises
- Snow bands form
- Mountains add additional lift



Record Lake Effect Snows February 3-12, 2007

- Incredibly Mild December 2006 and Early January 2007
- Cold arctic air returns for late January and February 2007
 - *10+ feet of snow fell in the lake effect snow belts of northern NY!*



Ice Storms in New York

- Heavy weight of ice brings down trees



January 1998

Ice Storms: Definitions

- **Freezing rain:** rain that freezes on contact with all exposed surfaces. Objects become encased in ice, can damage trees and power lines.
- **Sleet:** Frozen raindrops that bounce on impact with the ground. Does NOT glaze over or encase objects with ice.

Freezing Rain

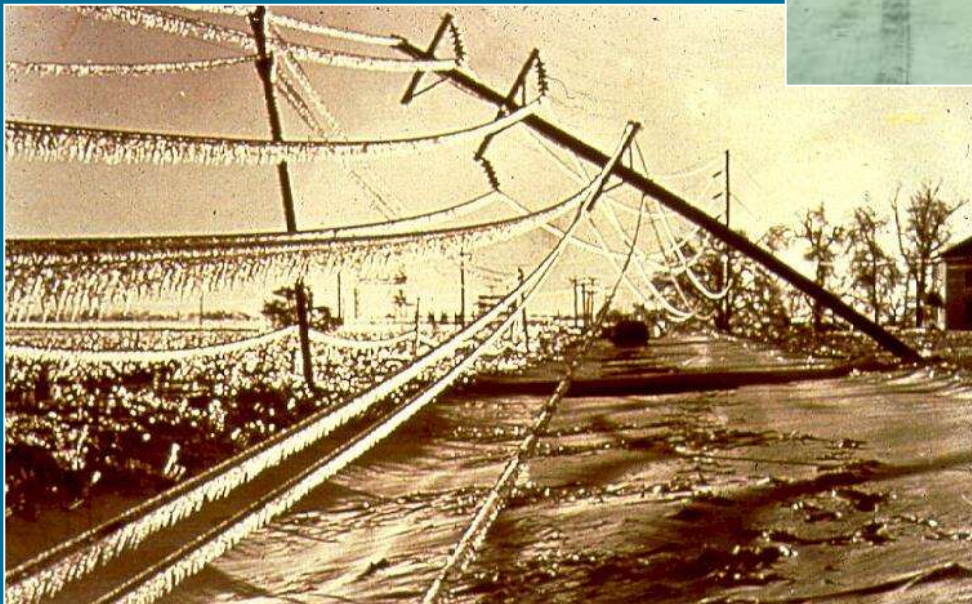


Sleet

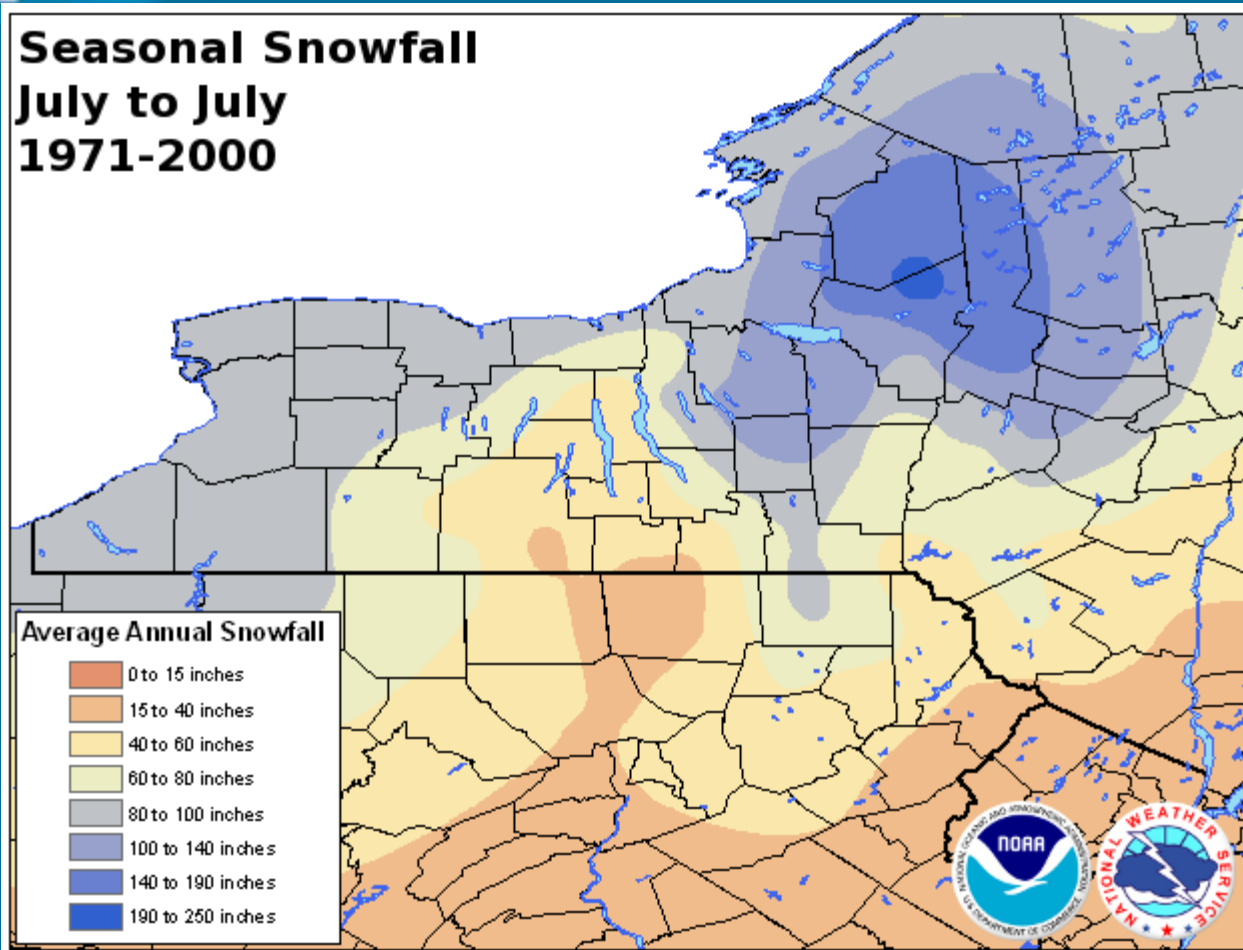


Ice Impacts

- Power and Communication lines come down
- Traffic accidents
- Pedestrian falls

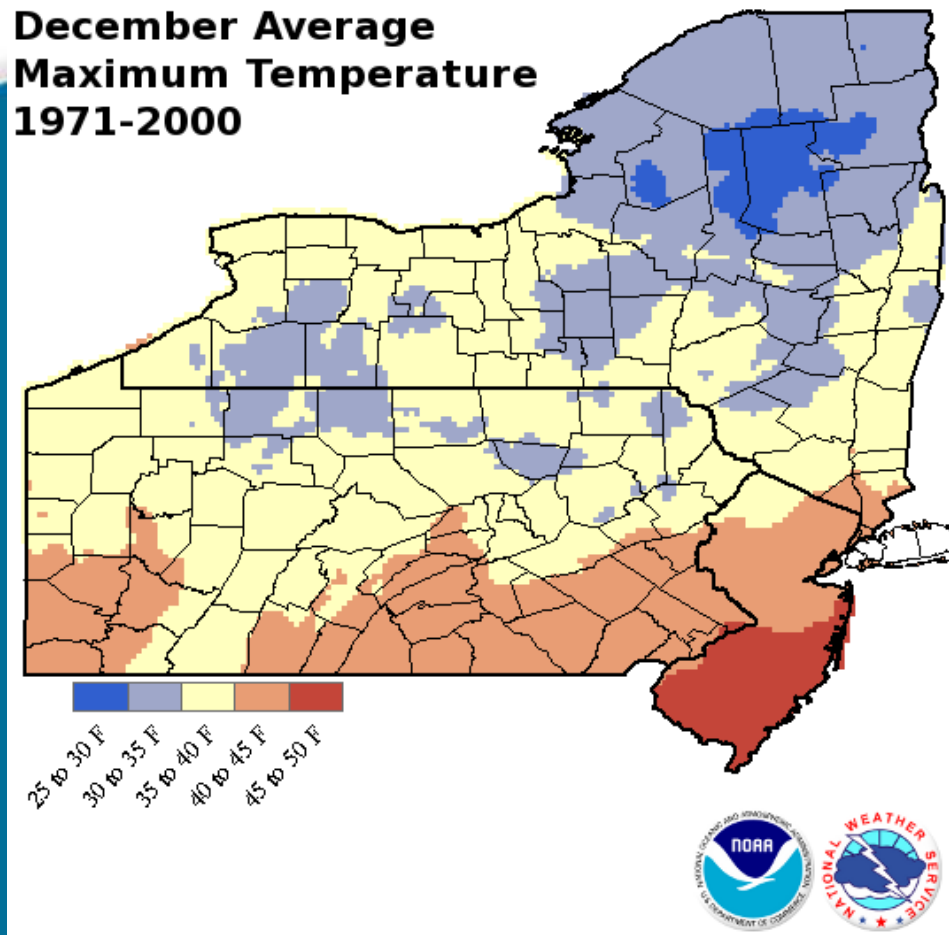


Normal Seasonal Snowfall

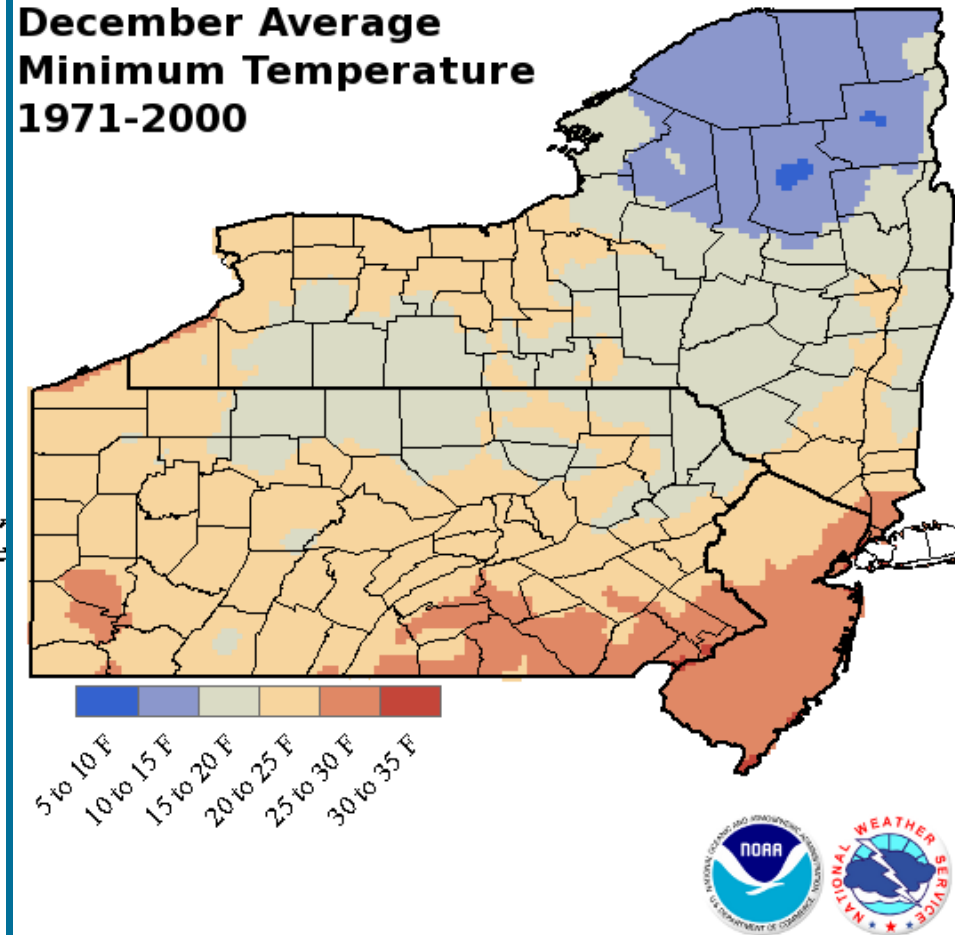


Normal High and Low Temperatures for December

**December Average
Maximum Temperature
1971-2000**

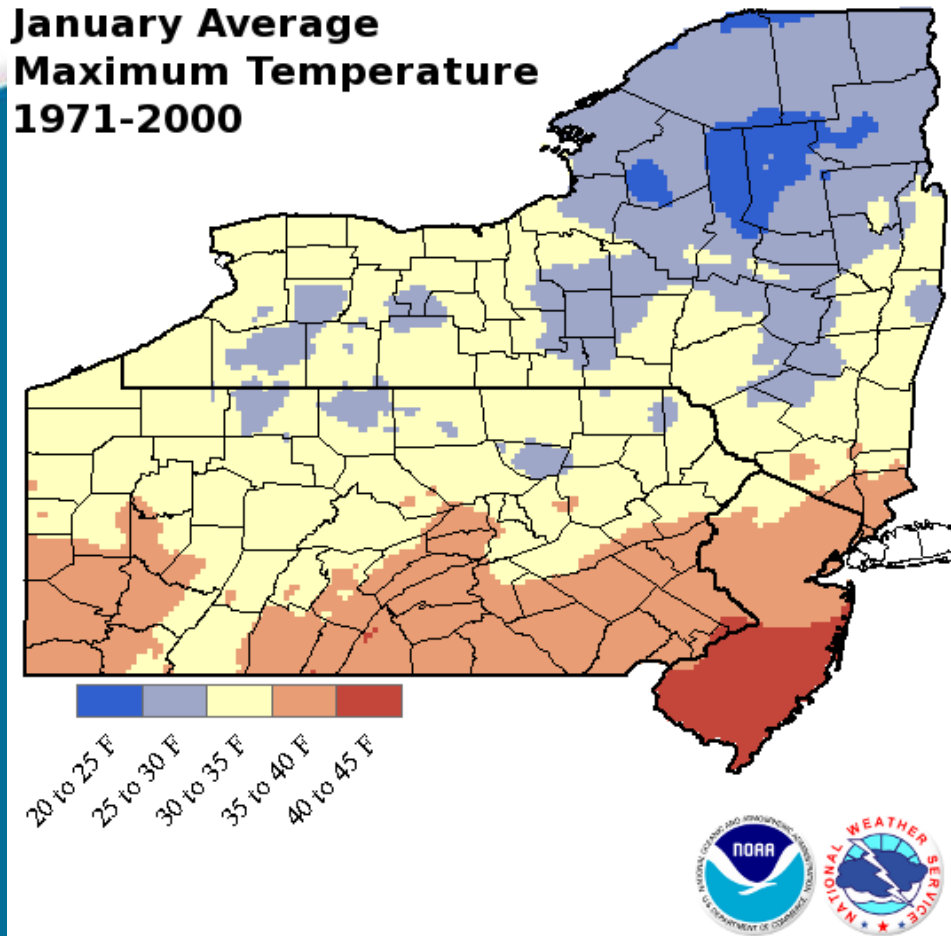


**December Average
Minimum Temperature
1971-2000**

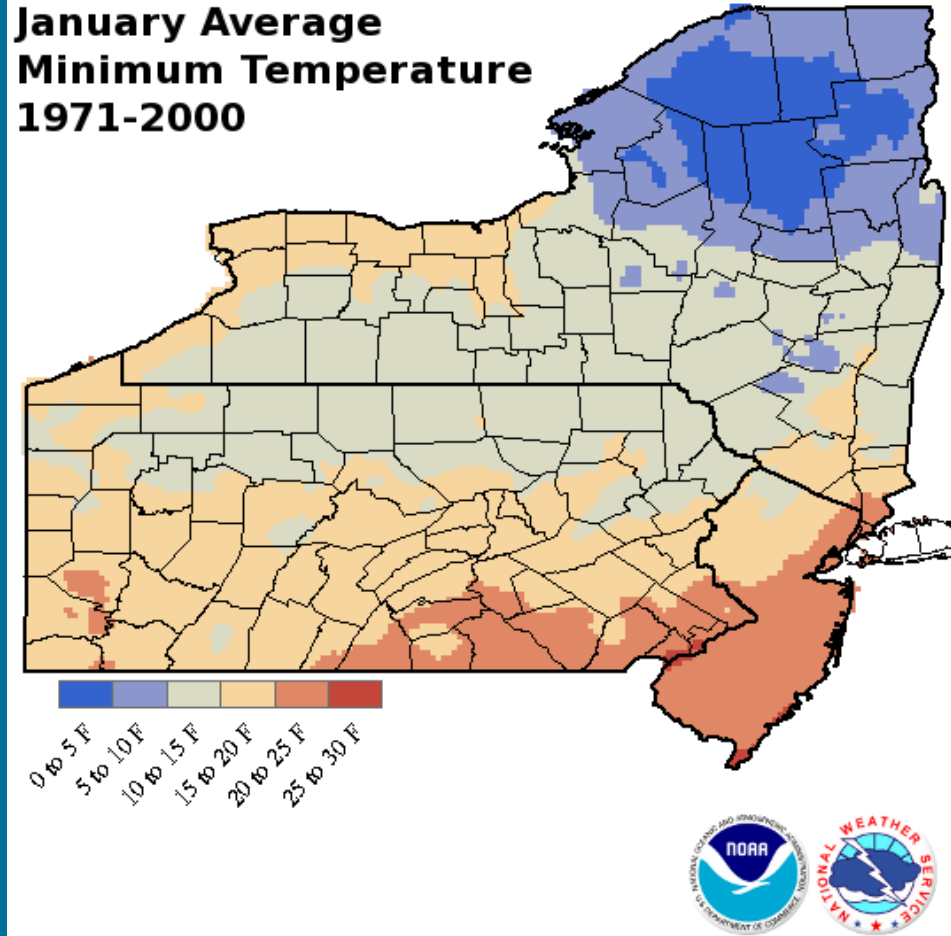


Normal High and Low Temperatures for January

**January Average
Maximum Temperature
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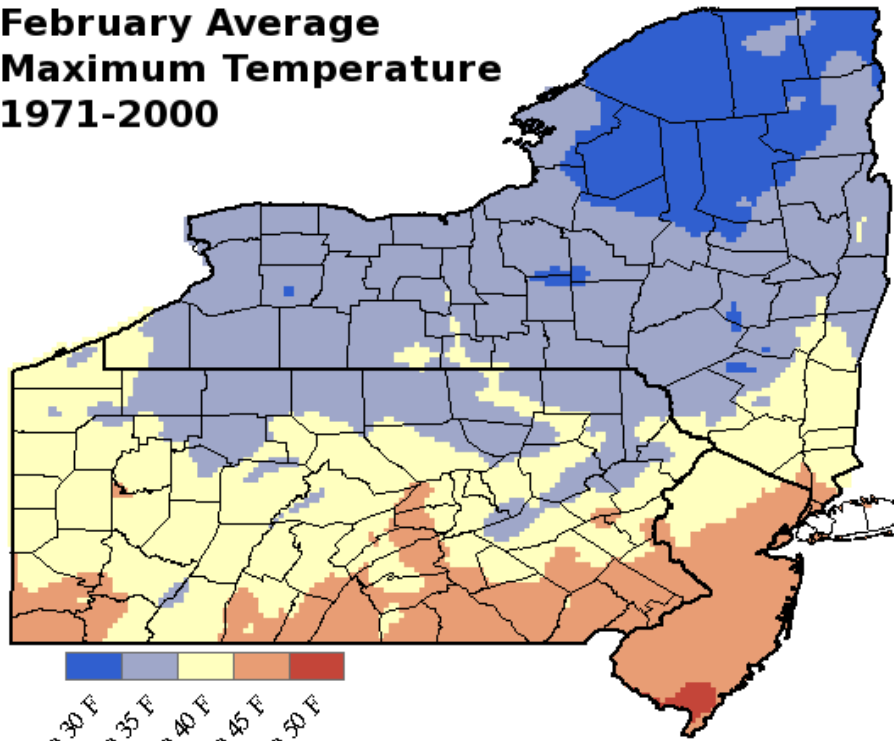


**January Average
Minimum Temperature
1971-2000**

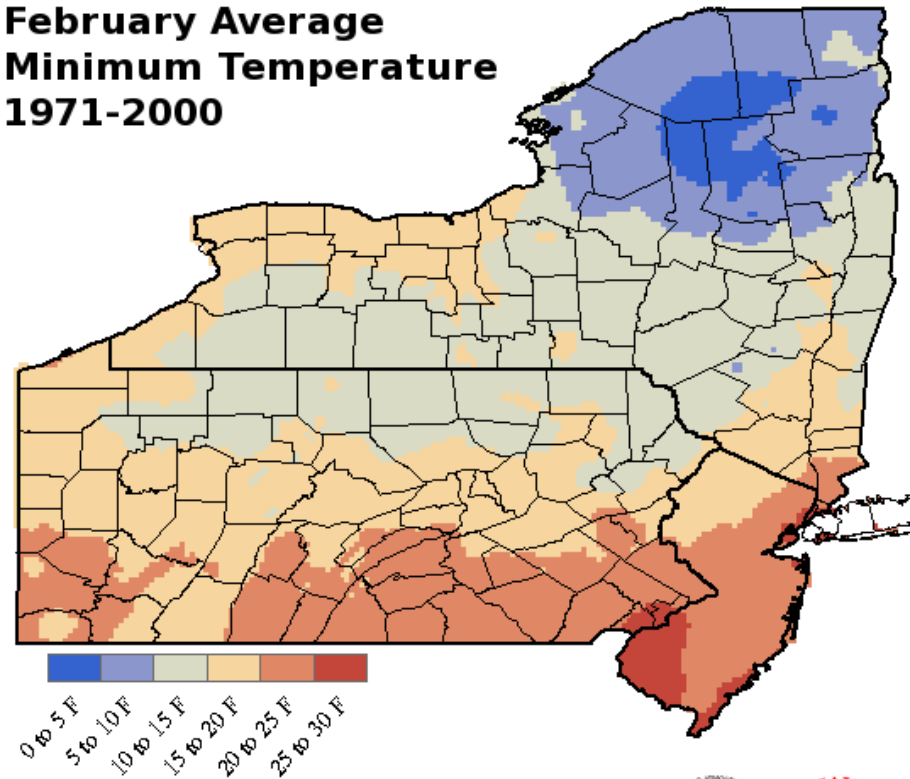


Normal High and Low Temperatures for February

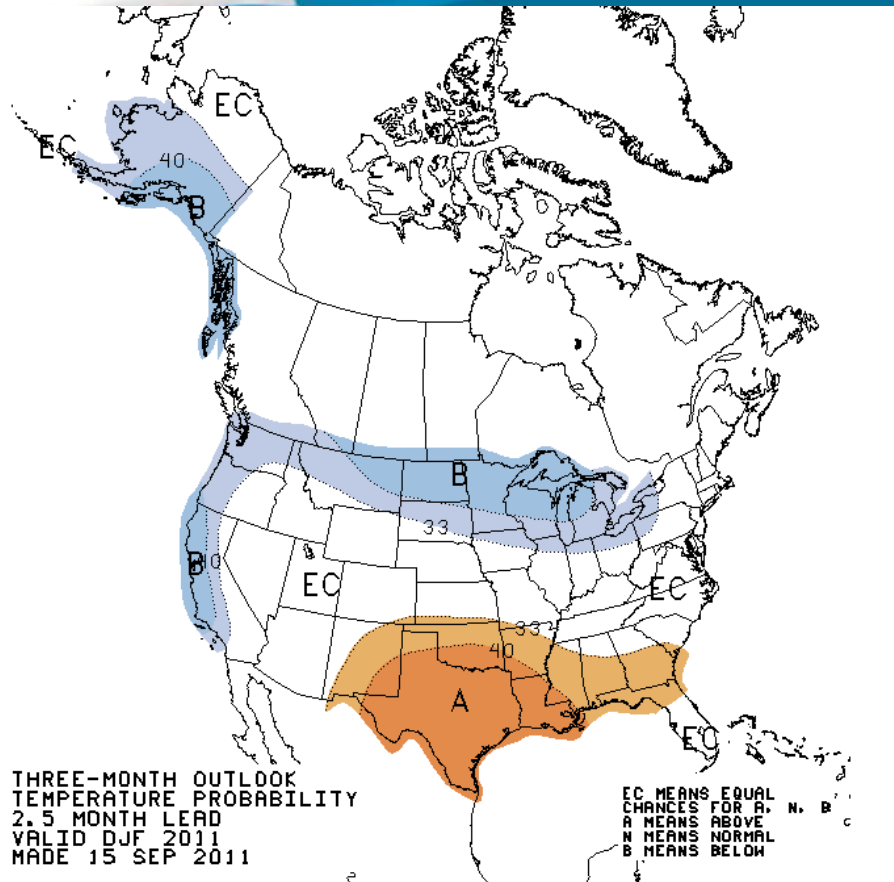
**February Average
Maximum Temperature
1971-2000**



**February Average
Minimum Temperature
1971-2000**

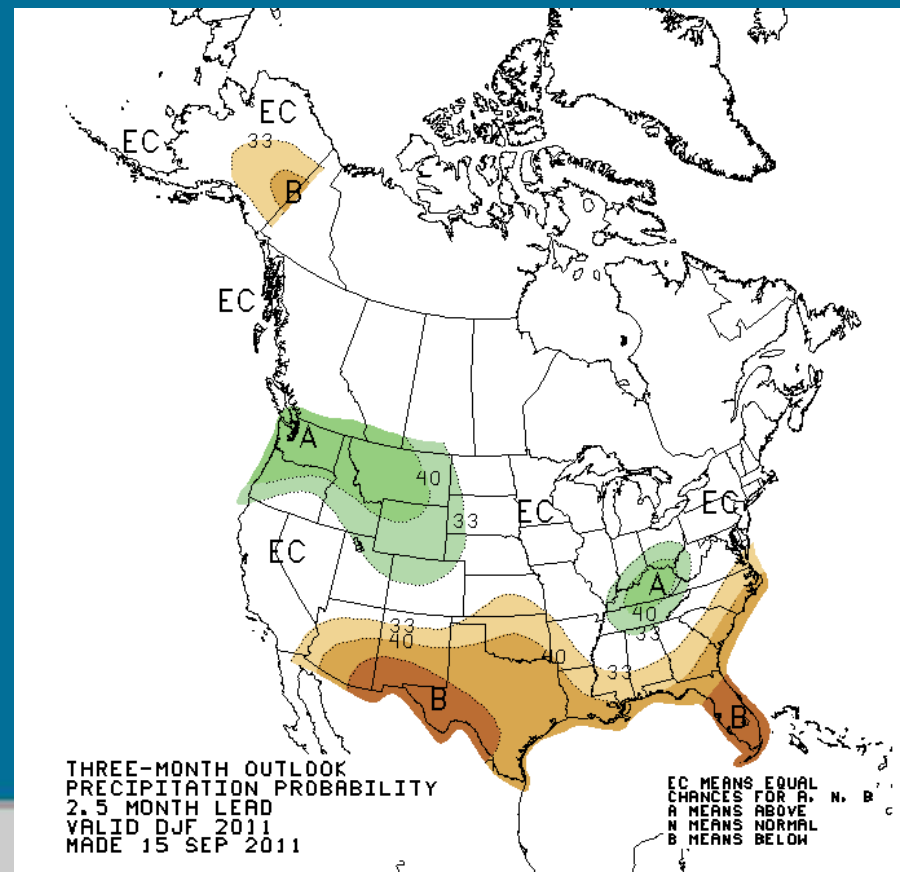


Temperature and Precipitation Winter Outlook



TEMPERATURES

PRECIPITATION

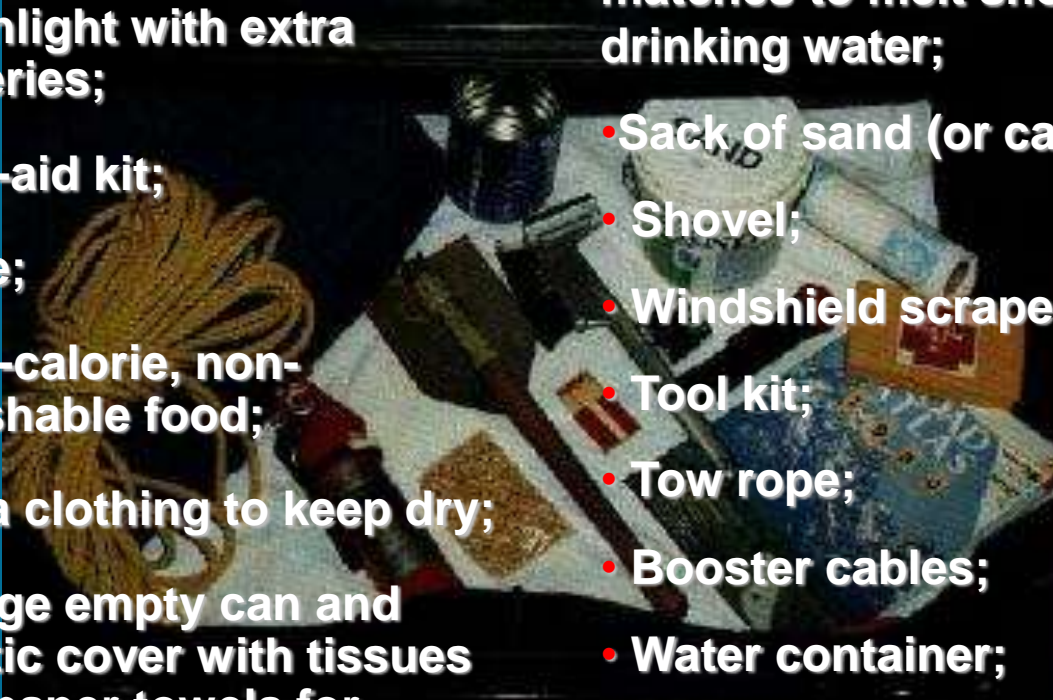


Winter Weather Safety- At Home

- *Flashlight and extra batteries.*
 - *Battery-powered NOAA Weather Radio and portable radio to receive emergency information.*
 - *Extra food and water – at least a 3 day supply.*
 - *Extra medicine and baby items.*
 - *First-aid supplies.*
 - *Heating fuel.*
- 
- *Emergency heating source, such as a fireplace, wood stove, space heater, etc.*
 - *Fire extinguisher and smoke detector.*

Winter Storm Survival Kit- Automobiles

- Blankets/sleeping bags;
- Flashlight with extra batteries;
- First-aid kit;
- Knife;
- High-calorie, non-perishable food;
- Extra clothing to keep dry;
- A large empty can and plastic cover with tissues and paper towels for sanitary purposes;
- A smaller can and water-proof matches to melt snow for drinking water;
- Sack of sand (or cat litter);
- Shovel;
- Windshield scraper and brush;
- Tool kit;
- Tow rope;
- Booster cables;
- Water container;
- Compass and road maps.



Automobile Safety in Winter Storms

- Plan your travel and check the latest weather reports to avoid the storm!
- Fully check and winterize your vehicle before the winter season begins.
- Keep your gas tank near full to avoid ice in the tank and fuel lines.
- Try not to travel alone.
- Let someone know your timetable and primary and alternate routes.



Winter Watches

- **Winter Storm Watch:** Potential (50% chance or more) for a winter storm. A winter storm watch is used to cover all of the potential hazards from snow to ice to wind and extreme cold.
 - Potential exists for 7 inches of snow or more in 12 hours or less.
 - Potential exists for ½ inch or more of ice.
 - NWS will issue a Winter Storm Watch 24 to 72 hours in advance of the event.
- **Blizzard Watch:** Potential exists for blizzard conditions 24 to 72 hours in advance.
- **Lake Effect Snow Watch:** 7 inches or more of lake effect snow possible in the next 24 to 72 hours.
- **Wind Chill Watch:** Potential exists for winds chills of 25°F or greater, with winds of ≥ 5 mph, lasting longer than one hour



WINTER STORM WATCH:
Heavy snow / ice possible.



Winter Warnings

- **Winter Storm Warning**
 - 7 inches of snow or more in 12 hours or 9 inches of snow or more in 24 hours.
 - Dangerous combination of snow, ice, low wind chill, and/or blowing/drifting snow.
- **Lake Effect Snow Warning**
 - 7 inches or more of lake effect snow in 12 hours
 - Localized accumulations; not all areas will see heavy lake effect snow.
- **Ice Storm Warning**
 - 1/2 inch or more of ice.
- **Blizzard Warning**
 - Blizzard conditions expected: Wind or wind gusts exceeding 35 mph for 3 hours or more combined with blowing and/or falling snow. Visibilities near zero. Widespread whiteout conditions.
- **Wind Chill Warning**
 - Wind Chills of -25F or less



Winter Advisories

- **Winter Weather Advisory:**
 - *Hazardous combination of snow, ice, low wind chill, and/or blowing/drifting snow.*
- **Freezing Rain Advisory**
 - *Any accumulation of ice*
- **Lake Effect Snow Advisory**
 - *4 to 6 inches of lake effect snow*
- **Wind Chill Advisory:**
 - *Wind chills of -15°F to -24°F*



Advisories vs. Warnings

- Advisories are issued for significant winter weather events that could be life-threatening if proper precautions are not taken.
- Warnings are issued when the event can be life-threatening even with precautions.

Wind Chill



NWS Windchill Chart



		Temperature (°F)																		
		Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
Wind (mph)	5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63	
	10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72	
	15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77	
	20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81	
	25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84	
	30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87	
	35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89	
	40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91	
	45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93	
	50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95	
	55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97	
	60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98	

Frostbite Times



30 minutes



10 minutes



5 minutes

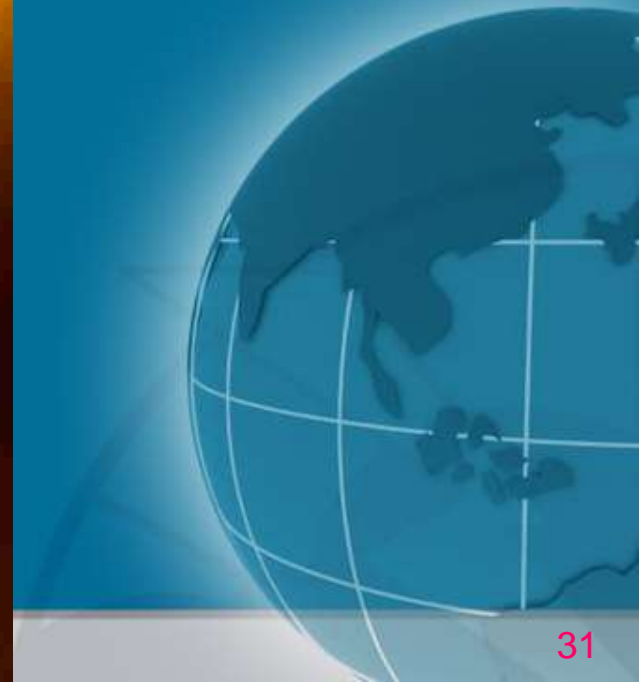
$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T= Air Temperature (°F) V= Wind Speed (mph)

Effective 11/01/01

<http://www.nws.noaa.gov/om/windchill/index.shtml>

Getting the Word Out



Internet Sites:

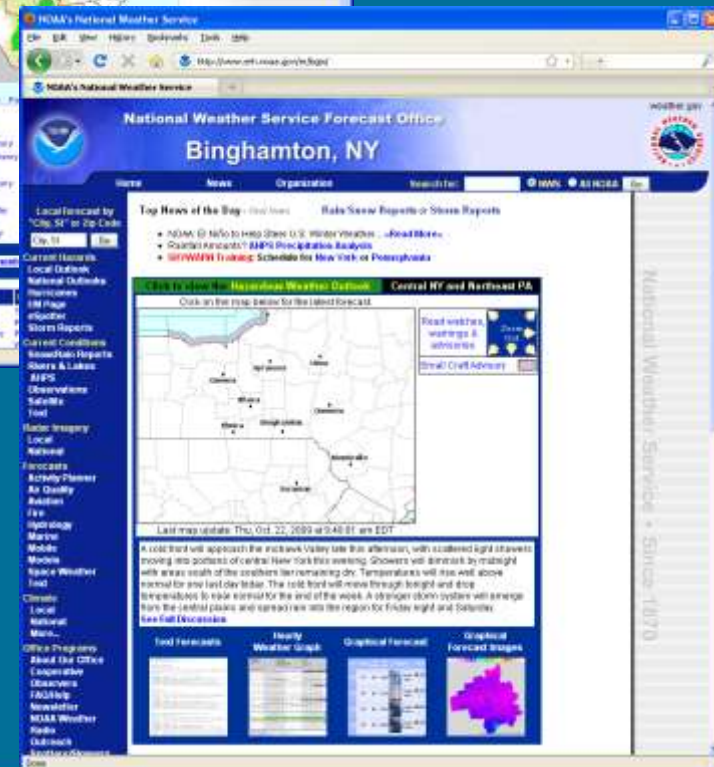
<http://weather.gov/bgm>

– **NWS BGM point and click forecasts**

<http://weather.gov>

– **Main NWS internet Site**

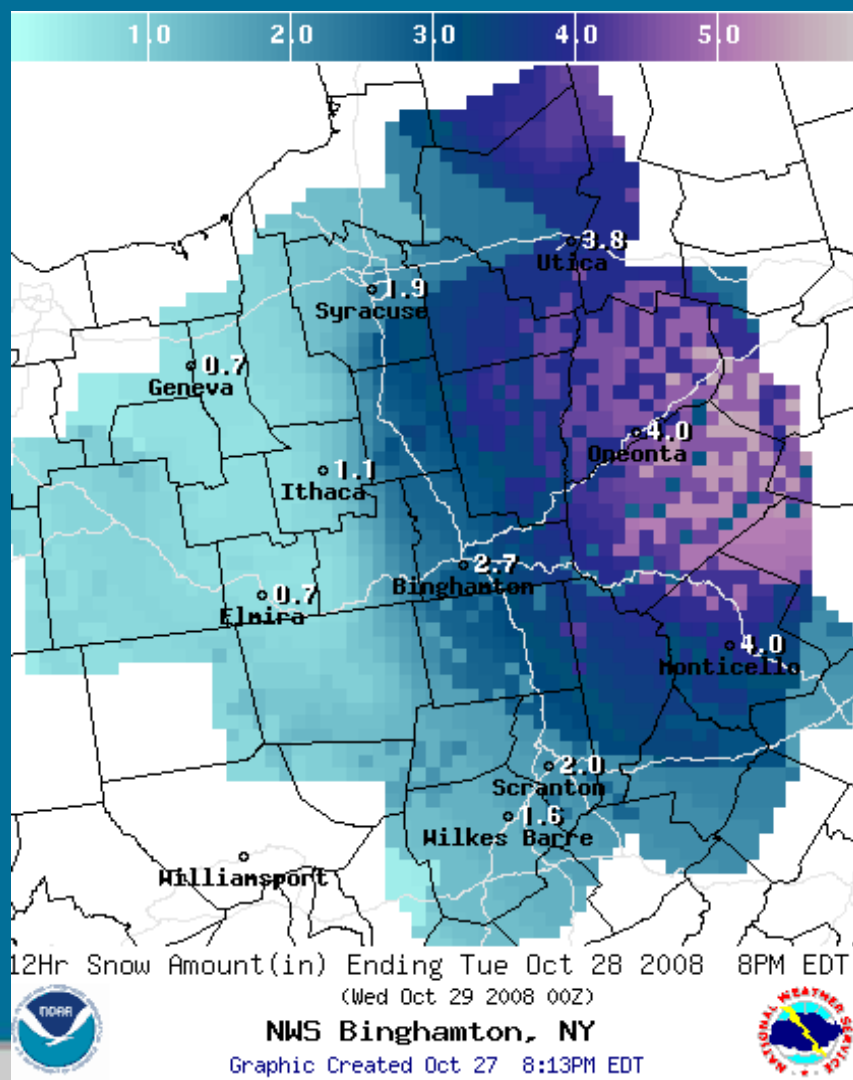
– **Click on section of NY to get directed to NWS Binghamton/Buffalo/Albany/Burlington (VT) or New York City.**



<http://mobile.weather.gov> - weather information for your mobile phone.

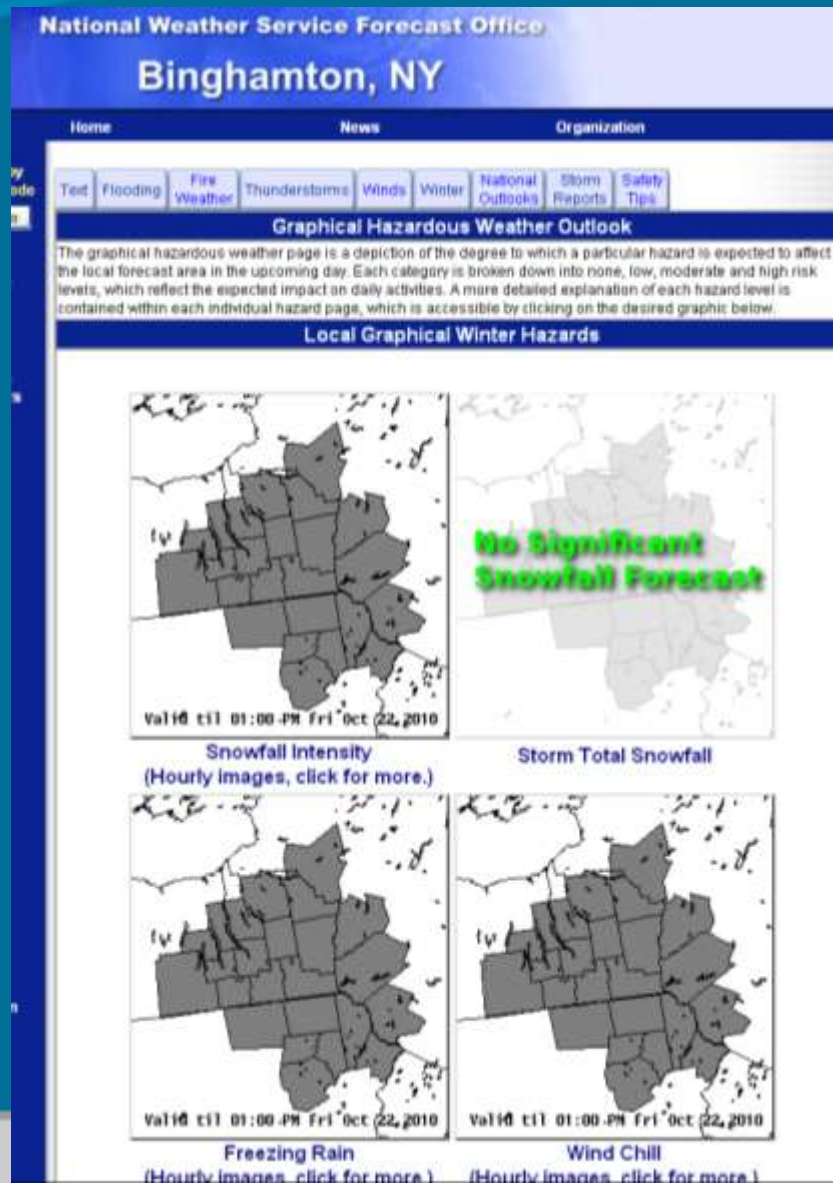
Snowfall forecasts

<http://www.erh.noaa.gov/bgm/winter/stormtotal/stormtotalsnow.php>



Winter Hazards Forecasts

http://www.erh.noaa.gov/bgm/hwo/ghwo_winter.php



One of the Most Reliable Ways to Receive Weather Information from the National Weather Service- NOAA Weather Radio All Hazards:

<http://weather.gov/nwr>




Facebook

<http://www.facebook.com/US.NationalWeatherService.Binghamton.gov>

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US National Weather Service Binghamton NY
Flash Flood Watch up for areas mainly along and east of I-81. Please send us any rainfall totals or pictures/reports of flooding that you may have.



Hazardous Weather Outlook
Click on the map below for the latest forecast.

Flash watches, warnings & advisories
Zone Out
Data Viewing
Flash Advisory
Small Craft Advisory
High Wind Watch
General Weather Statement
Hazardous Weather Outlook
Short Term Forecast


Last map update: Fri, Oct 16, 2010 at 11:54:31 am EDT
Interactive Forecasts | Report Severe Weather

Wall Photos

Like · Comment · Share · 4 hours ago

3 people like this.


Write a comment...



US National Weather Service Binghamton NY
With areas of heavy rain possible today, if you have a rain gauge we would love to see any rainfall reports you may have. If you don't have a gauge and you are interested in reporting rainfall to us in the future, shoot us an email at bgm.stormreport@noaa.gov and put attention to Erik Heden in the subject.

Like · Comment · Share · 4 hours ago

Amanda Tower and Brent McGrady like this.

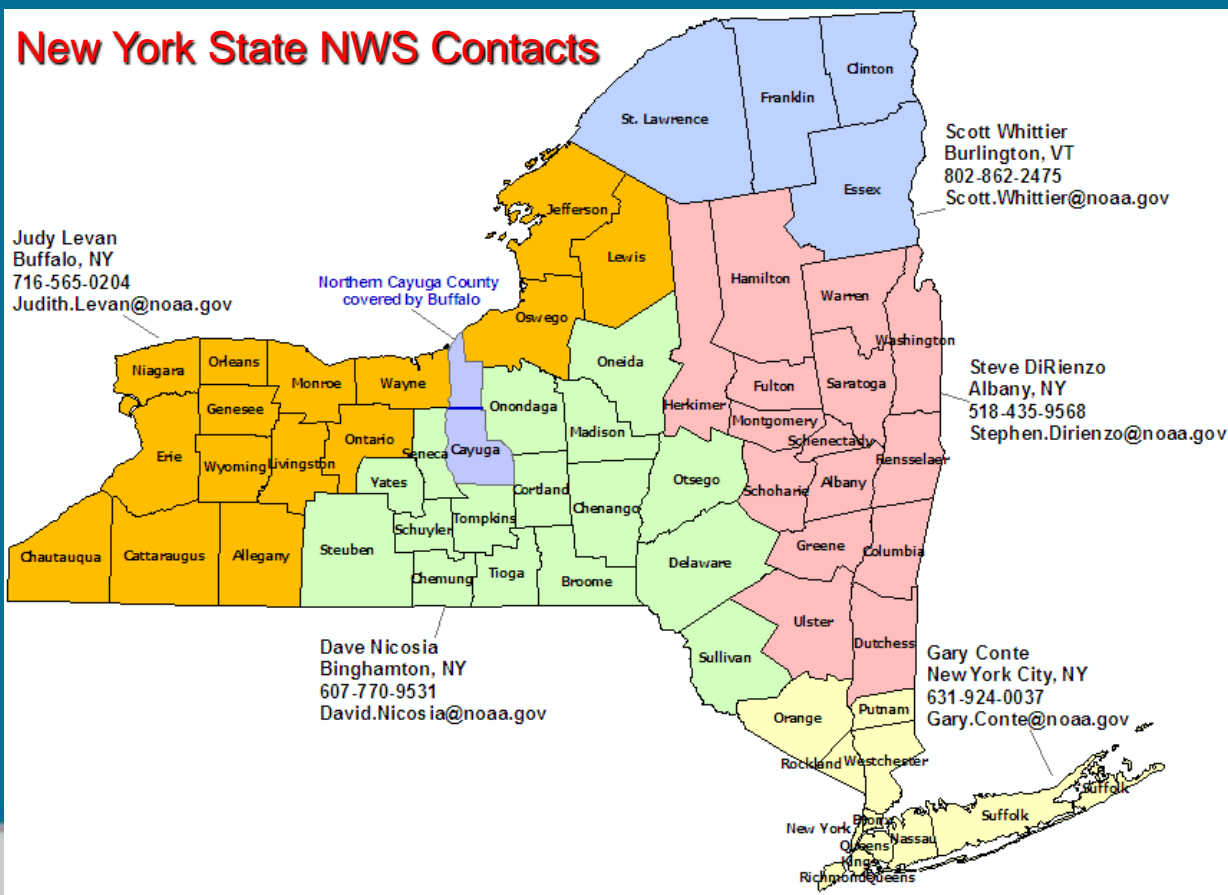
 **Amanda Tower** That reminds me that I should go empty it...
4 hours ago · Like

NWS Binghamton Contact

David Nicosia, Warning Coordination Meteorologist

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david.nicosia@noaa.gov



More on Winter Weather Preparedness

<http://www.nws.noaa.gov/om/winter/index.shtml>

